

**REMARKS**

Claims 1-8 are pending in this application. By this Amendment, claims 1-3 are amended and claims 4-8 are added. No new matter is added.

Applicants appreciate the courtesies shown to Applicants' representative by Examiner Kunemund in the July 12 personal interview. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

**I. Number of Claims**

The Office Action rejects claims 1-4; however, the application as originally filed only contained three claims. As confirmed with Examiner Kunemund in his May 11 telephone conference with Applicants' representative, the indication of four rejected claims was a typographical error.

**II. Section §112 Rejection**

The Office Action rejects claims 1-3 under 35 U.S.C. §112, second paragraph, as being indefinite. Specifically, the Office Action states that it is unclear how the lattice constant does not change or vary and then increases. By this Amendment, claims 1-3 are amended to directly address the concerns raised in the Office Action. The amendments to claims 1-3 are not narrowing amendments. As agreed to in the interview, claims 1-3 satisfy the requirements of §112, second paragraph. Reconsideration and withdrawal of the rejection are respectfully requested.

**III. §103 Rejection**

The Office Action rejects claims 1-3 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,411,641 to Shirai et al. (Shirai) in view of JP 06-092796 (JP '796).

Applicants respectfully traverse the rejection.

Claim 1 is directed to a magnetic garnet single-crystal film, and recites "wherein said crystal has a lattice constant that either remains constant or gradually decreases, and then



increases, in a direction in which said film was grown on said substrate. Claim 2 is directed to a method for producing a magnetic garnet single-crystal film, and recites "controlling a lattice constant of the growing magnetic garnet single-crystal so that the lattice constant remains constant or gradually decreases with the growth of the single-crystal for a period of time from a start of the liquid-phase epitaxial growth of the film, and then controlling the lattice constant of the growing magnetic garnet single-crystal so that the lattice constant increases with the growth of the single-crystal film in a direction in which said film has grown." Shirai, alone or in combination with JP '796, fails to teach or suggest all of the features of claims 1 and 2.

Claim 3 is directed to a Faraday rotor and recites "a lattice constant A of a light-receiving surface...a lattice constant B of a light-emitting surface...a lattice constant C of a region of the magnetic garnet single-crystal spaced nearly equidistant from the light-receiving surface and from the light-emitting surface, wherein the lattice constants...satisfy the requirement,  $(A+B)/2 > C$ ." Shirai, alone or in combination with JP '796, fails to teach every feature of claim 3.

Shirai discloses a high-energy laser Faraday rotor that includes a bismuth-substituted rare-earth iron garnet single-crystal film grown as a Faraday rotor by using a liquid-phase epitaxial method. See the abstract. However, as agreed to in the personal interview, Shirai fails to teach or suggest that a crystal has a lattice constant that either remains constant or gradually decreases, and then increases, in a direction in which said film was grown on said substrate, as required by claim 1, and fails to teach or suggest the controlling step of claim 2. Furthermore, as agreed to in the personal interview, Shirai fails to teach or suggest the claimed lattice constants of claim 3.

JP '796 is cited for its disclosure that "the deviation of lattice constant is increased from the substrate side toward the growth direction." See the English-language abstract.



However, as agreed to in the personal interview, JP '796 fails to overcome the deficiencies of Shirai. Specifically, JP '796 fails to teach or suggest that a crystal has a lattice constant that either remains constant or gradually decreases, and then increases, in a direction in which said film was grown on said substrate, as required by claim 1. Furthermore, as agreed to in the interview, JP '796 fails to teach or suggest the controlling step of claim 2. In addition, as agreed to in the interview, JP '796 fails to teach or suggest the lattice constant relationship of claim 3.

For at least these reasons, Shirai, alone or in combination with JP '796, fails to teach or suggest every feature of claims 1-3. Accordingly, claims 1-3 are patentable over the cited references, alone or in combination. Reconsideration and withdrawal of the rejection are respectfully requested.

**IV. New Claims**

Support for new claims 4 and 5 can be found in the specification, at least at page 10, lines 2-11. Support for new claim 6 can be found at least in original claim 2. Support for claim 7 and 8 can be found in the specification, at least at page 10, lines 11-14.

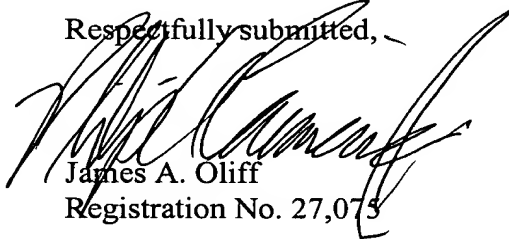
**V. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-8 are earnestly solicited.



Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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